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POSTAL RATE AND FEE CHANGES, 2000

Docket No. R2000-1

DIRECT TESTIMONY
OF
NANCY R. KAY
ON BEHALF OF
UNITED STATES POSTAL SERVICE

TABLE OF CONTENTS

AUTOBIOGRAPHICAL SKETCH	1
PURPOSE AND SCOPE OF TESTIMONY	2
MATERIALS ASSOCIATED WITH THIS TESTIMONY	3
I ESTIMATING INCREMENTAL COST FOR BY1998	4
A. Identify Cost Components.....	5
B. Find Independent and Dependent Components	5
C. Determine the Correct Incremental Cost Procedure	6
D. Calculate Incremental Cost for Dependent Components	8
E. Identify Product Specific Costs	9
II ESTIMATING INCREMENTAL COSTS FOR TY2001	10
III RESULTS OF INCREMENTAL COST ANALYSIS	12
A. General Results	12
B. Subclass Results	13
1. Priority and Express.....	13
2. First-Class, Periodicals, Standard (A), and Standard (B).....	15
3. Special Services	17
C. Product Groups.....	19

DIRECT TESTIMONY
OF
NANCY R. KAY

AUTOBIOGRAPHICAL SKETCH

My name is Nancy R. Kay. I am a project director with Foster Associates, Inc., in Bethesda, Maryland. I have been with Foster Associates since 1993.

My work at Foster Associates has involved analysis of Postal costing issues, specifically in the areas of incremental cost, mail processing, post office box costs, and city and rural carrier delivery. I have assisted in the preparation of testimony for several rate cases, most recently in the preparation of incremental cost for Docket R97-1. I developed the model used to estimate incremental costs, and prepared workpapers and library references for the incremental cost testimony presented in that rate case. I also assisted in the preparation of rebuttal testimony on rural carrier costing.

Prior to joining Foster Associates, I was a senior engineer with Quyen Systems, where I was primarily involved in analysis for the U.S. Postal Service. I participated in studies analyzing mail transportation network flows. I also created a data warehouse that was to be used in various Postal analysis projects.

I have a M.S. in Computer Science from Johns Hopkins University.

1 **PURPOSE AND SCOPE OF TESTIMONY**

2
3 The purpose of this testimony is to present incremental cost estimates for
4 BY1998 and TY2001. Incremental costs are developed for each subclass and special
5 service, as well as for groups of subclasses. This testimony will discuss the
6 procedures used to calculate these incremental costs. Dr. Bradley (USPS-T-22)
7 explains the analytic basis for the calculation of incremental cost.

8
9 Incremental costs for postal products were first presented in Docket No. R97-1,
10 in the testimony of witness Takis (USPS-T-41). In this testimony, I follow the new
11 method of calculating incremental cost as described by Dr. Bradley (USPS-T-22). As
12 Dr. Bradley explains, the new method is consistent with established Commission
13 costing methodology.

14
15 This testimony is organized into four sections. The first section discusses the
16 general methodology used to estimate incremental costs. The next section describes
17 the procedures used to estimate incremental costs in BY1998. The third section
18 describes the procedures used to estimate incremental costs in TY2001. The last
19 section presents the results of the incremental costs analysis for BY1998 and TY2001,
20 and discusses those results for individual subclasses and groups of subclasses.

1 MATERIALS ASSOCIATED WITH THIS TESTIMONY

2
3 This testimony is accompanied by supporting workpapers and library references.
4 My workpapers include a detailed discussion of the procedures used to calculate
5 incremental cost for each component. Printouts of the model used to estimate
6 incremental costs for BY1998 and TY2001 are included in the workpapers.

7
8 The Library References associated with this testimony are:

9
10 LR-I-150 Supporting Material Relating to Incremental Cost Model (USPS-T-
11 23)
12 LR-I-151 Calculation of Single Subclass Stop Ratios (USPS-T-23)

I ESTIMATING INCREMENTAL COST FOR BY1998

This section of my testimony discusses how the general methodology for estimating incremental cost is put into practice in the estimation of BY1998 incremental cost. The procedures used to estimate BY1998 incremental cost are discussed in this section, while specific details on the incremental cost calculations for each cost component can be found in the workpapers to my testimony.

I implement the algorithm for calculating incremental cost with this five-step process:

Step 1: Identify each cost component. If volume variable cost calculations are done at a more disaggregated level than the cost component, then the constituent cost pools are identified.

Step 2: Identify independent and dependent components. An independent cost component has a volume variability analysis and distribution key. A dependent cost component borrows its volume variability and distribution key from another component or group of components.

Step 3: Determine the correct incremental cost procedure to use in calculating incremental cost for independent components, and calculate the incremental cost. The incremental cost calculations are based on the type of cost component. Component types are identified by Dr. Bradley (USPS-T-22, Table 1).

Step 4: Calculate volume related incremental cost for dependent components.

Step 5: Identify product specific costs and add these to the volume related incremental cost.

A. Identify Cost Components

The first step in calculating incremental cost identifies each cost component used in volume variable cost calculations. I start with the cost components identified in the BY1998 CRA model (USPS-T-11, Workpaper A). I then analyze the CRA workpapers (USPS-T-11, Workpaper B) and the testimony of other witnesses to determine the volume variability analysis for each of the cost components. The incremental cost analysis is done at the same level as the volume variability analysis. In some cases, the volume variability analysis is performed at the sub-component level. In this case, I use the CRA workpapers or other reference to divide the cost component into a series of sub-components, called cost pools, for use in incremental cost analysis.

For example, Window Service is a cost component used in the CRA model. Analysis of the Window Service workpapers (USPS-T-11, Workpaper B, WS 3.2.1 and WS 3.2.2) shows that there are ten cost pools in this component, each with its own variability analysis. These include four cost pools for acceptance mail - Weigh & Rate, Express, Money Orders, and Special Services. The other six cost pools are for Non-Acceptance mail, Stamped mail, Metered mail, Cards, Stamped Envelopes, and Waiting Time. A separate base-year incremental cost analysis will be performed on each of the ten cost pools.

The volume variability analysis for mail processing is also done at the sub-component level. In this case, I refer to the testimony of witnesses Bozzo (USPS-T-15) and Van-Ty Smith (USPS-T-17) to determine the cost pools to use in the mail processing incremental cost analysis.

B. Find Independent and Dependent Components

This step examines each cost component (or cost pool) to determine if it has an independent variability analysis, or if it borrows its variability and distribution key from

another component or group of components. Volume variable costs are determined in this way, so the incremental cost calculations follow that structure.

In the CRA model (USPS-T-11, Workpaper A), the total cost for a dependent component is distributed to mail products using a cost-weighted distribution key. This distribution key is the sum of the costs, by mail product, for each of the components in the key. The dependent component also receives the cost-weighted variability of the components in the distribution key. Likewise, in the CRA workpapers (USPS-T-11, Workpaper B), a cost pool within an individual cost component is distributed to mail products using the cost-weighted distribution key. This key is the sum of the costs, by product, in each of the cost pools comprising the key. The cost pool receives the cost-weighted variability of the components in the distribution key. If a component (or cost pool) is distributed in the CRA in this manner, then I classify the component (or cost pool) as dependent.

This step also identifies the components that comprise the distribution key for a dependent component. This information will be used in the incremental cost calculations.

C. Determine the Correct Incremental Cost Procedure

I evaluate each independent cost component to determine the correct incremental cost method. I first categorize each component (or cost pool) into the eight types defined by Dr. Bradley (USPS-T-22, Table 1).

- Type 1. The costs in this component are fixed and common. There are no incremental costs for this component.
- Type 2. The costs in this component are fixed, but some or all costs are specific to one or more products. Incremental cost equals the specific fixed costs.

- 1 ▪ Type 3. The costs in this component are variable, but all costs are distributed to
2 one product. The variability for the component is one hundred percent.
3 Incremental cost equals accrued cost for this component.
4
- 5 ▪ Type 4. The costs in this component are variable, and all costs are distributed to
6 one product. The variability for this component is less than one hundred percent.
7 Incremental cost equals accrued cost for this component.
8
- 9 ▪ Type 5. The costs in this component are variable, distributed to more than one
10 product, and the variability equals one hundred percent. There are non-volume
11 variable costs intrinsic to a product. The incremental cost for the product with
12 intrinsic costs equals the volume variable cost plus the institutional costs. The
13 incremental cost for the other products equals their volume variable cost.
14
- 15 ▪ Type 6. The costs in this component are variable, distributed to more than one
16 product, and the variability is less than one hundred percent. There are non-
17 volume variable costs intrinsic to a product. The incremental cost for the product
18 with intrinsic costs equals the volume variable cost plus the institutional costs.
19 The incremental cost for the other products containing volume-variable costs are
20 determined with the constant elasticity method (see Dr. Bradley, USPS-T-22,
21 Section III, for a discussion of use of the constant elasticity method in calculating
22 base year incremental cost). If there are no volume-variable costs in the
23 component (i.e. the volume variability for the component is zero) then the
24 incremental cost will equal the intrinsic cost.
25
- 26 ▪ Type 7. The costs in this component are variable and distributed to more than
27 one product. The volume variability equals one hundred percent, and there are
28 no intrinsic costs. Incremental cost for all products will equal volume variable
29 cost.
30

- Type 8. The costs in this component are variable and distributed to more than one product. The volume variability is less than one hundred percent, and there are no intrinsic costs. The incremental cost for these components will be calculated with either the constant elasticity method or, for letter route access and time at stop, with single subclass stop ratios.¹

D. Calculate Incremental Cost for Dependent Components

The incremental cost of dependent components is calculated with a methodology that parallels the determination of the volume variable cost of these components. Dependent components borrow their variability and distribution keys from other components. The incremental cost for a dependent component will be directly proportional to the incremental cost for the related component(s), minus any product specific costs. The incremental cost for subclass (*i*) in dependent cost component (*j*) that borrows its variability and distribution key from cost component (*k*), is calculated with the following formula:

$$IC_{ij} = VVC_{ij} * \left[\frac{IC_{ik} - PS_{ik}}{VVC_{ik}} \right] \quad (1)$$

The distribution key for a component may be comprised of several other components. The key is generated in the CRA by summing of the costs by product across these components. This distribution key is used both to distribute costs to products and to determine the variability of the dependent component. In this case, the volume variable costs for the dependent component are first divided among the various independent components that are used to form the distribution key. The incremental to volume variable cost ratio for the independent component will be applied to that portion of the dependent component costs that are associated with the independent

¹ Single subclass stops measure the number of stops receiving only one class or subclass of mail. The stops are caused by that class or subclass alone and are thus part of its incremental cost. The accrued cost for letter route access and time at stop, multiplied by the single subclass ratio, is the cost that will be saved in this component if that subclass were eliminated.

component. The last step adds up the portions of the incremental cost for the dependent component, by product, that are associated with each independent component. This is represented mathematically as:

$$IC_{ik} = \sum_{j=i}^n \left[VVC_{ik} * \left[\frac{VVC_{ij}}{VVC_{iDK}} \right] * \left[\frac{IC_{ij} - PS_{ij}}{VVC_{ij}} \right] \right] \quad (2)$$

E. Identify Product Specific Costs

Product specific costs are non-volume variable costs caused by the provision of a product. Product specific costs for a mail product are incremental to that mail product. These costs appear in three of the component types identified by Dr. Bradley (USPS-T-22, Table 1). These include specific fixed costs (Type 2) and intrinsic costs (Types 6 and 7).

I use a variety of sources to identify product specific costs, including the reallocated trial balance (LR-I-9), the CRA spreadsheets of witness Meehan (USPS-T-11, Workpaper B), and special analysis (LR-I-150).

II ESTIMATING INCREMENTAL COSTS FOR TY2001

Incremental costs for TY1998 in Docket R97-1 were estimated by multiplying aggregate base year incremental costs for subclass (*i*) by the ratio of aggregate test year volume variable costs for subclass (*i*) to aggregate base year volume variable costs for subclass (*i*). Product specific costs were included in the ratio. This was represented mathematically as:

$$IC_{i,TY} = IC_{i,BY} * \left[\frac{VVC_{i,TY}}{VVC_{i,BY}} \right] \quad (3)$$

In this case, however, to calculate test year incremental costs, we follow the roll-forward methodology used to calculate test year volume variable costs. I use the same factors to calculate test year incremental costs that are used to calculate test year volume variable and product specific costs. This means that I calculate test year incremental cost at the same level of detail that is available for test year volume variable cost.

The roll-forward model, described in the testimony of witness Kashani (USPS-T-14), works on the cost component, not the cost pool, level. For example, mail processing costs for all cost pools are aggregated into one component. This aggregated component goes through the rollforward process as one unit. As a result, in the test year there is a lack of information on volumes and cost drivers for the constituent cost pools. Therefore, test year incremental cost calculations for mail processing will be done at the component level.

Test year volume-related incremental costs for subclass (*i*) in cost component (*j*) are calculated with the following formula, which 'rolls-forward' base year volume-related incremental cost (see Dr. Bradley, USPS-T-22, Section IV-C):

$$IC_{ijT} = [IC_{ij} - F_{ij}](1 + g_i)(1 + \pi_j)(1 + \eta_j)(1 + \phi_j) \quad (4)$$

Non-volume variable costs do not get a volume effect in the roll-forward. Test year product specific costs are calculated by applying the appropriate roll-forward factors to base year product specific costs.

$$F_{ijt} = F_{ij} (1 + \pi_j)(1 + \eta_j)(1 + \phi_j) \quad (5)$$

Test year product specific costs are added to the test year volume-related incremental costs. Finally, total test year incremental cost for subclass (*i*) is calculated by adding together the incremental cost in subclass (*i*) for all components (*j*):

$$IC_{it} = \sum_{j=1}^n [IC_{ij} - F_{ij}](1 + g_i)(1 + \pi_j)(1 + \eta_j)(1 + \phi_j) + F_{ijt} \quad (6)$$

III RESULTS OF INCREMENTAL COST ANALYSIS

This section presents the results of the incremental cost analysis. I present results for each major subclass, plus groups of subclasses, mail classes, and special services. I also present results for a set of two-subclass combinations. Incremental cost calculations are made for BY1998, TY2001(BR), and TY2001(AR).

A. General Results

Tables 1A and 2A in Attachment A show, for each subclass, group of subclasses, and special service:

- BY1998 total volume variable cost
- BY1998 total incremental cost
- TY2001(BR) total volume variable cost
- TY2001(BR) total incremental cost
- TY2001(AR) total and average unit (per piece) volume variable cost
- TY2001(AR) total and average unit (per piece) incremental cost

The subclasses, groups of subclasses and mail classes in Table 1A correspond to the subclasses, groups of subclasses, and mail classes presented in the Cost and Revenue Analysis report (LR-I-2). Table 2A displays incremental costs for additional selected pairs of subclasses. Total incremental cost for a particular subclass, group of subclasses, or special service is the sum of the product's incremental costs for all cost components. The workpapers to my testimony present detailed incremental cost calculations for each cost component.

There is a close similarity between average incremental cost and average volume variable (marginal) cost for the majority of subclasses. Incremental cost will be very close to volume variable cost if:

- 1) the amount of the driver in a subclass is not too large,
- 2) the volume variability is relatively high, and
- 3) product specific costs are not too great.

Dr. Bradley (USPS-T-22) illustrates this point in his Table 2 his testimony. This table shows the difference between volume variable cost and volume-related incremental cost with various proportions of the driver and percentages of variability.

B. Subclass Results

This section examines the results of the incremental cost analysis for individual subclasses. Average incremental cost for most subclasses do not vary much from average volume variable cost. Following the discussion in the previous section, in those subclasses where there is a large difference, it will be due to one of these three reasons:

- large product specific costs associated with the particular subclass;
- marginal cost changes significantly as the driver changes; or
- the proportion of the driver is large.

This section discusses each of the subclasses where incremental cost differs from volume variable cost, and highlights the reason for the difference. Incremental costs in this section are for TY2001(AR), unless the discussion requires costs for cost pools that are aggregated into components for test year incremental cost calculations. In this case, BY1998 costs are provided.

1. Priority and Express

Table 1A shows the difference between volume variable and incremental cost for Priority and Express. Total incremental cost for Priority and Express are both significantly greater than volume variable cost. This difference is primarily due to product specific costs. The following table shows the product specific costs for Priority and Express, by cost component.

TABLE 3.
PRODUCT SPECIFIC COSTS FOR PRIORITY AND EXPRESS MAIL (TY2001(AR)),
IN MILLIONS (\$000,000)

Cost Component	Priority Mail	Express Mail
C/S 3 Mail Processing	\$ 172.4	\$ 73.1
Admin Clerks	0	11.7
Clerks/Messengers	0	6.2
C/S 7 City Carriers	0	9.7
C/S 14 Transportation	69.6	124.3
C/S 15 Rents	2.9	0
Communications	.1	0
C/S 16 Misc. Supplies	.5	0
Advertising	32.9	.5
C/S 18 Headquarters	6.6	0
Supplies & Services	13.1	0
Misc. Support	4.2	0
C/S 19 Supplies & Services	.1	0
TOTAL	\$ 302.4	\$ 225.5

Mail processing (CS 3) contributes significant product specific costs to both Priority and Express Mail. For Priority, the costs of providing dedicated manual Priority operations are considered incremental to that subclass, because these operations would be discontinued if Priority Mail were eliminated. With respect to Express mail, Dr. Bozzo (USPS-T-15) discusses a group of mail processing operations that consist of a combination of costs that are fully volume variable and costs that are fixed. This group of cost pools contains fixed costs for work related to Express Mail, which are incremental to Express Mail.

Intrinsic costs associated with providing certain types of air transportation contribute to the product specific costs for both Priority Mail and Express Mail. These premium costs, which are the costs over and above standard commercial airline costs, are product specific to Express on the Eagle Network and Western Networks, and product specific to Priority on the Christmas Network (C-Net).

1 There are also significant advertising costs for Priority Mail. These product specific
 2 costs are not volume variable, and contribute to the difference between volume variable
 3 and incremental cost.

4
 5 Table 2A shows additional product specific costs that add to the difference between
 6 volume variable and incremental cost for Express. These are comprised of product
 7 specific costs for Express mail administrative clerks and clerks/messengers in cost
 8 segment 3, and for city delivery carriers in cost segment 7. These include costs for
 9 drops and pickups from Express Mail facilities, costs for accessing Express mailboxes,
 10 and costs for fixed time at stop at Express mailboxes.²

11
 12 Product specific costs for Priority are also found in cost segments 15, 16, 18, and
 13 19.

14
 15 In addition to the product specific costs listed in Table 3, there are two relatively
 16 small cost pools with volume variable cost where the entire amount of the driver is in
 17 Express Mail. The incremental cost for these components will equal the accrued cost
 18 for the component (see page 7 of this testimony). These cost pools include costs for
 19 loading of Express Mail boxes in CS 3.4 and the costs for window service clerks (CS
 20 3.2) to provide Express Mail services.

21 22 **2. First-Class, Periodicals, Standard (A), and Standard (B)**

23
 24 These four mail classes are discussed together because they have a common
 25 feature – none of individual subclasses within these mail classes have product specific
 26 costs.³ Yet, the relationship between volume variable and incremental cost differs for

² These are actually six separate cost pools, as shown in my workpapers, including Drop/PU Express Mail Facility SPR, Drop/PU Express Mail Facility MLR, Access EM Box Collect SPR, Access EM Box Collect LTR, Time at Stop Collect EM Boxes SPR, and Time at Stop Collect EM Boxes LTR.

³ The combination of two First-Class categories - Single Piece Letters and Presort Letters - has a small amount of product specific cost, but it is only 0.1% of the difference between volume variable and incremental cost for these combined categories.

the subclasses within these mail classes. This section will compare the difference between volume variable and incremental cost for the subclasses in First-Class, Periodicals, Standard (A) and Standard (B) that have the greatest volume variable cost. These are First-Class Single Piece, Periodicals Outside County Regular Rate, Standard (A) Regular Enhanced Carrier Route, and Standard (B) Zone Rate.

Incremental costs for First-Class Single Piece and Standard (A) Regular Enhanced Carrier Route mail are 5.5% and 5.9% higher than volume variable costs, respectively. However, incremental costs are less than 1% higher than volume variable costs for Regular Rate Periodicals and for Standard (B) Parcels Zone Rate.

If all other conditions are equal⁴, mail subclasses with a larger share of the driver will have a larger difference between volume variable cost and incremental cost. Table 4 compares the RPW volumes for selected mail subclasses with the percentage increase of incremental cost over volume variable cost. The mail subclasses with a higher percentage of RPW volumes have a larger percent difference between incremental and volume variable costs.

⁴ The assumption of 'all else being equal' is important here, because there are other factors that may contribute to the difference between volume variable and incremental cost. The presence of large amounts of product specific cost, as well as low volume variability, will also contribute to this difference.

This discussion relating RPW volume to the percentage increase in incremental cost is for illustrative purposes. For some cost components, the driver is not mail volume. For example, the driver for city carrier access costs is the number of stops. Incremental cost is determined by the number of these stops that are for a single subclass. In the single delivery residential (SDR) cost pool for city carrier access, Standard (A) Regular ECR has a higher percentage of single subclass stops than First-Class Single Piece mail, leading to a larger incremental cost. Similarly, city carrier load costs are driven by shape of mail. Flat shape mail has a lower volume variability than letter shape. Standard (A) ECR has a higher proportion of flat shape mail volume than First-Class Single Piece, leading to a higher incremental cost.

TABLE 4
COMPARISON OF TY2001(AR) RPW VOLUMES WITH THE PERCENTAGE
INCREASE OF INCREMENTAL OVER VOLUME VARIABLE COST

Mail Subclass	RPW Volume, in Millions	Percent of Total RPW for All Subclasses	Percentage Increase of Incremental over Volume Variable
First-Class Single Piece Letters	52,878	25.5%	5.5%
Periodicals Outside County Regular	7,352	3.5%	0.9%
Standard (A) Commercial Standard ECR	32,828	15.8%	5.9%
Standard (B) Zone Rate	374	0.2%	0.9%

3. Special Services

This section will highlight the two special services that show a large difference between volume variable and incremental cost – Certified and Money Orders.

Incremental cost for Certified mail is 18.9% higher than volume variable cost, while incremental cost for Money Orders is 39.6% higher than volume variable cost.

Money Orders has product specific costs in two components - \$5.4 million for Money Order Division in CS 18, and \$5.6 million in Advertising costs in CS 16. These product specific costs account for 19% of the difference between incremental and volume variable cost. Most of the remainder of the difference is due to the Money Orders cost pool in window service (CS 3.2). All of the volume variable costs in this cost pools are in the Money Orders special service. The incremental cost for this component will equal the accrued cost for the component (see page 7 of this testimony). This cost pool, combined with the dependent cost pool for window service supervision (CS 2), adds another \$38.1 million to the difference between incremental and volume variable cost, 62.4% of the difference.

The incremental cost for Certified contains no product specific costs, yet incremental cost is 18.8% higher than volume variable cost. Two of the reasons for a large difference between volume variable and incremental cost apply to this accountable:

- a) the amount of driver in a subclass is large; and
- b) the volume variability is particularly low.

77% of the \$72.0 million difference between incremental and volume variable cost in BY1998 incremental cost comes from four city carrier (C/S 7) cost pools – Letter Route Load SDR, Letter Route Load MDR, Letter Route Load BAM, and Street Support Load⁵. Letter route load costs are driven by shape of mail, including letters, flats, parcels, accountables, collections, and deliveries. (See witness Baron, USPS-T-12, at 4-6.) The volume variability for loading accountables is particularly low - 4.2% for single delivery residential (SDR) stops, 1.3% for multiple delivery residential (MDR) stops, and 24.5% for business and mixed (BAM) stops⁶. In addition, more than 60% of the driver for loading accountables is in the Certified special service. This combination of low volume variability and a large proportion of the driver in the Certified special service lead to an incremental cost that is significantly larger than volume variable cost.

For example, BY 1998 volume variable cost for Certified in the Letter Route Load SDR cost pool is \$37.8 million, while incremental cost is \$61.4 million - an increase of 62%. The Street Support Load cost pool borrows the variability and distribution in large part from these three Letter Route Load cost pools, so the incremental cost for Certified

⁵ These cost pools are aggregated into the CS 7 Load component for use in the Roll-forward model. There is not enough information to determine the TY2001(AR) costs in the individual cost pools. Therefore this discussion uses BY1998 costs.

⁶ The incremental cost for letter route load is calculated with a variation of the constant elasticity formula that takes into account the multiple drivers. This is represented mathematically by

$$IC_{ij} = \alpha_j D_j^{\epsilon_l} D_j^{\epsilon_f} D_j^{\epsilon_p} D_j^{\epsilon_a} D_j^{\epsilon_d} \left[1 - \left[(1 - \theta_{il})^{\epsilon_l} * (1 - \theta_{if})^{\epsilon_f} * (1 - \theta_{ip})^{\epsilon_p} * (1 - \theta_{ia})^{\epsilon_a} * (1 - \theta_{id})^{\epsilon_d} \right] \right]$$

where *l* represents letters and collections, *f* represents flats, *p* represents parcels, *a* represents accountables, and *d* represents deliveries (the deliveries term is not used for SDR stop types).

in this dependent component is also much higher than volume variable cost. Table 6 shows the incremental and volume variable costs for all four cost pools.

TABLE 6.
INCREMENTAL AND VOLUME VARIABLE COSTS FOR CERTIFIED (BY1998), IN
MILLIONS (\$000,000)

Cost Component	Volume Variable Cost	Incremental Cost	Difference (%)
Letter Route Load - SDR	\$ 37.8	\$ 61.4	62.4%
Letter Route Load - MDR	9.5	15.5	63.2%
Letter Route Load - BAM	46.6	63.8	36.9%
Street Support Load	16.3	24.4	49.7%
TOTAL	\$ 110.2	\$ 165.1	49.8%

C. Product Groups

Table 1A contains incremental cost estimates for product groups. These product groups correspond to the groups listed in the Cost and Revenue Analysis report (LR-I-2). These include the combination of presort and non-presort First-Class letters, presort and non-presort First-Class Cards, presort and ECR Standard (A) Commercial, and presort and ECR Standard (A) Non-Profit. Incremental cost estimates for all mail classes, First-Class, Periodicals, Standard (A), and Standard (B), are also included. In addition, Table 1A includes incremental cost estimates for each of the Postal Service business groups. These include Correspondence (all of First-Class and Mailgrams), Advertising (all of Standard (A) plus Standard (B) Bound Printed Matter), Expedited and Package Services (Priority, Express, Standard (B) Zone Rate, Special, and Library Rate), and Special Services.

Note that the incremental costs may not be summed across subclasses. The incremental cost for a group of subclasses is found by removing the portion of the driver associated with the group of subclasses. For this reason, the incremental cost for a group of subclasses will be different than the sum of the incremental costs for the individual subclasses within the group.

1
2 The product groups in Table 1A are significant because of the shared production
3 technologies within the individual subclasses within the groups. For example, the
4 subclasses within First-Class Mail share many of the same production technologies (i.e.
5 mail processing operations, purchased transportation). In addition, some of these
6 product groups contain highly competitive products.

7
8 Table 2A displays the results of incremental cost calculations on 36 additional pairs
9 of subclasses. The subclasses in the pairs were chosen for one of two reasons:

- 10
11 a) base year per piece revenue is very close to base year per piece incremental
12 cost; or
13 b) a subclass contains large amounts of product specific costs.

14
15 These calculations demonstrate the ease in which incremental cost can be calculated
16 for groups of subclasses.

17
18 Tables 1A and 2A present incremental costs for groups of subclasses for BY1998
19 and TY2001(AR). The same methodology described previously is used to calculate test
20 year incremental costs. I use the volume variable cost for the group of subclasses as
21 the basis for the ratios.

ATTACHMENT A

TABLE 1A. BY1998 AND TY2001(AR) VOLUME VARIABLE AND INCREMENTAL COST FOR SUBCLASSES AND CLASSES

LINE NO.	CLASS, SUBCLASS, OR SPECIAL SERVICE	BY 1998 VOLUME	BY 1998	TY2001(BR)	TY2001(BR)	TY2001(AR)	TY2001(AR)	TY2001(AR)	TY2001(AR)
		VARIABLE COST	INCREMENTAL COST	VARIABLE COST	INCREMENTAL COST	VARIABLE COST	INCREMENTAL COST	VARIABLE COST PER RPW PIECE	INCREMENTAL COST PER RPW PIECE
	COLUMN NUMBER	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
1	FIRST-CLASS MAIL:								
2	SINGLE-PIECE LETTERS	12,412,946	13,086,072	13,515,330	14,260,464	13,437,357	14,179,317	\$ 0.2541	\$ 0.2682
3	PRESORT LETTERS	4,167,656	4,299,679	5,050,613	5,218,914	5,019,464	5,188,914	\$ 0.1068	\$ 0.1105
4	TOTAL LETTERS	16,580,602	17,811,534	18,565,943	19,977,722	18,456,821	19,865,338	\$ 0.1848	\$ 0.1989
5	SINGLE-PIECE CARDS	519,574	531,568	554,794	567,908	539,919	552,719	\$ 0.1949	\$ 0.1995
6	PRESORT CARDS	147,145	148,718	172,878	174,731	168,958	170,800	\$ 0.0633	\$ 0.0640
7	TOTAL CARDS	666,719	680,962	727,672	743,401	708,877	724,564	\$ 0.1303	\$ 0.1331
8	TOTAL FIRST-CLASS	17,247,321	18,684,938	19,293,615	20,939,007	19,165,699	20,805,817	\$ 0.1820	\$ 0.1976
9	PRIORITY MAIL	2,395,877	2,696,914	3,263,396	3,608,423	3,064,062	3,406,568	\$ 2.4517	\$ 2.7258
10	EXPRESS MAIL	384,614	606,005	476,631	718,780	480,984	723,261	\$ 8.6525	\$ 10.0035
11	MAILGRAMS	1,105	1,135	991	1,017	1,000	1,026	\$ 0.2995	\$ 0.3073
12	PERIODICALS:								
13	IN-COUNTY	76,873	77,531	82,227	82,923	81,397	82,098	\$ 0.0944	\$ 0.0952
14	OUTSIDE COUNTY:								
15	REGULAR	1,749,726	1,765,948	2,031,214	2,050,321	1,981,587	2,000,331	\$ 0.2695	\$ 0.2721
16	NON-PROFIT	362,146	364,107	370,280	372,301	388,570	390,717	\$ 0.1893	\$ 0.1904
17	CLASSROOM	13,991	14,025	14,264	14,321	14,034	14,071	\$ 0.2548	\$ 0.2554
18	TOTAL PERIODICALS	2,202,736	2,230,504	2,496,005	2,529,870	2,465,589	2,497,245	\$ 0.2389	\$ 0.2420
19	STANDARD MAIL (A):								
20	SINGLE-PIECE RATE	213,627	213,766						
21	COMMERCIAL STANDARD:								
22	ENHANCED CARR RTE	2,234,485	2,364,600	2,527,785	2,675,104	2,471,864	2,617,126	\$ 0.0753	\$ 0.0797
23	REGULAR	5,535,163	5,624,610	7,125,095	7,242,821	6,823,934	6,937,525	\$ 0.1684	\$ 0.1692
24	TOTAL COMMERCIAL	7,769,648	8,163,178	9,652,879	10,136,605	9,295,798	9,787,090	\$ 0.1259	\$ 0.1323
25	AGGREGATE NONPROFIT:								
26	NONPROF ENH CARR RTE	169,833	169,987	212,388	212,580	208,577	208,768	\$ 0.0731	\$ 0.0732
27	NONPROFIT	1,130,549	1,141,877	1,328,100	1,339,791	1,320,811	1,334,443	\$ 0.1156	\$ 0.1160
28	TOTAL AGGREG NONPROFIT	1,300,382	1,313,238	1,538,489	1,554,011	1,529,189	1,544,778	\$ 0.1071	\$ 0.1082
29	TOTAL STANDARD (A)	9,283,657	9,802,400	11,191,368	11,812,270	10,824,987	11,431,673	\$ 0.1229	\$ 0.1298
30	STANDARD MAIL (B):								
31	PARCELS ZONE RATE	861,780	869,095	1,078,202	1,087,513	1,052,159	1,081,285	\$ 2.8125	\$ 2.8369
32	BOUND PRINTED MATTER	394,443	397,031	493,424	496,691	479,204	482,390	\$ 0.9132	\$ 0.9193
33	SPECIAL STANDARD	247,598	248,287	304,846	305,677	301,195	302,020	\$ 1.4836	\$ 1.4676
34	LIBRARY MAIL	41,051	41,102	48,295	48,355	47,444	47,504	\$ 1.6687	\$ 1.6708
35	TOTAL STANDARD (B)	1,544,872	1,570,300	1,924,767	1,957,184	1,880,002	1,911,763	\$ 1.6592	\$ 1.6873
36	US POSTAL SERVICE	262,798	263,140						
37	FREE MAIL	33,441	33,458	40,302	40,322	40,348	40,368	\$ 0.7119	\$ 0.7123
38	INTERNATIONAL MAIL	1,311,481	1,391,457	1,473,998	1,575,169	1,429,916	1,531,016	\$ 1.3861	\$ 1.4841
39	SPECIAL SERVICES:								
40	REGISTRY	99,336	99,452	89,272	89,381	85,204	85,307	\$ 7.7698	\$ 7.7793
41	CERTIFIED	402,771	474,753	494,945	586,165	461,746	548,689	\$ 1.6795	\$ 1.9956
42	INSURANCE	61,658	61,758	78,162	78,306	76,638	76,780	\$ 1.7153	\$ 1.7184
43	COD	14,171	14,193	15,105	15,129	14,991	15,016	\$ 4.2301	\$ 4.2369
44	SPECIAL DELIVERY	1	1	1	1	1	1		
45	MONEY ORDERS	122,800	173,658	159,605	222,366	153,995	214,999	\$ 0.8801	\$ 0.9495
46	STAMPED CARDS	3,208	3,208	3,444	3,444	3,444	3,444		
47	STAMPED ENVELOPES	13,111	13,118	12,542	12,549	12,544	12,551		
48	SPECIAL HANDLING	2,221	2,221	2,484	2,492	2,482	2,490		
49	POST OFFICE BOX	473,477	473,640	597,451	597,649	589,226	589,421		
50	OTHER	90,832	90,935	138,667	138,799	138,842	138,975		
51	TOTAL SPECIAL SERVICES	1,283,586	1,436,630	1,591,677	1,791,967	1,538,113	1,730,223		
52	CORRESPONDENCE	17,248,426	18,694,749	19,294,606	20,950,648	19,166,699	20,817,404	\$ 0.1820	\$ 0.1977
53	ADVERTISING	9,678,100	10,215,358	11,684,792	12,332,653	11,304,191	11,937,119	\$ 0.1275	\$ 0.1347
54	EXPEDITED	3,930,920	4,547,597	5,171,371	5,877,019	4,945,878	5,644,707	\$ 2.5621	\$ 2.9242

TABLE 2A. BY1998 AND TY2001(AR) VOLUME VARIABLE AND INCREMENTAL COST FOR SELECTED SUBCLASS COMBINATIONS

LINE NO.	CLASS, SUBCLASS, OR SPECIAL SERVICE	BY1998 VOLUME VARIABLE COST	BY1998 INCREMENTAL COST	TY2001(BR) VOLUME VARIABLE COST	TY2001(BR) INCREMENTAL COST	TY2001(AR) VOLUME VARIABLE COST	TY2001(AR) INCREMENTAL COST	TY2001(AR) VOLUME VARIABLE COST PER RPW PIECE
	COLUMN NUMBER	(1)	(2)			(3)	(4)	(5)
1	PRIORITY & EXPRESS	2,780,491	3,336,125	3,740,027	4,370,976	3,545,046	4,171,491	\$ 2.5893
2	PRIORITY & PERIODICALS IN-COUNTY	2,472,750	2,802,728	3,345,622	3,728,765	3,145,459	3,523,836	\$ 1.4438
3	PRIORITY & PERIODICALS REGULAR	4,145,603	4,504,331	5,294,610	5,712,339	5,045,650	5,457,611	\$ 0.5714
4	PRIORITY & PERIODICALS NON-PROFIT	2,758,023	3,091,646	3,633,676	4,019,905	3,452,632	3,834,677	\$ 1.0159
5	PRIORITY & PERIODICALS CLASSROOM	2,409,868	2,738,622	3,277,680	3,680,077	3,078,096	3,455,632	\$ 2.2776
6	PRIORITY & STANDARD (A) NON-PROFIT	3,526,426	3,873,891	4,589,496	4,994,291	4,384,674	4,784,377	\$ 0.3371
7	PRIORITY & STANDARD (B) ZONE RATE	3,257,657	3,634,684	4,341,598	4,789,244	4,116,221	4,557,033	\$ 2.4524
8	PRIORITY & STANDARD (B) BPM	2,790,320	3,144,576	3,758,820	4,173,444	3,543,268	3,954,049	\$ 1.9332
9	EXPRESS & PERIODICALS IN-COUNTY	461,487	687,002	558,858	606,018	562,382	609,703	\$ 0.5872
10	EXPRESS & PERIODICALS REGULAR	2,134,340	2,377,318	2,507,845	2,778,329	2,462,572	2,730,588	\$ 0.3236
11	EXPRESS & PERIODICALS NON-PROFIT	746,760	973,962	848,911	1,095,570	869,555	1,118,638	\$ 0.3993
12	EXPRESS & PERIODICALS CLASSROOM	398,605	623,396	490,916	737,380	495,019	741,657	\$ 3.7911
13	EXPRESS & STANDARD (A) NON-PROFIT	1,515,183	1,756,200	1,802,731	2,069,740	1,801,596	2,068,672	\$ 0.1529
14	EXPRESS & STANDARD (B) ZONE RATE	1,246,394	1,497,937	1,554,834	1,835,901	1,533,143	1,814,294	\$ 3.3507
15	EXPRESS & STANDARD (B) BPM	1	1,016,873	970,055	1,232,933	960,188	1,222,928	\$ 1.5690
16	PERIODICALS IN-COUNTY & PERIODICALS REGULAR	1,826,599	1,847,088	2,113,440	2,138,135	2,062,985	2,087,013	\$ 0.2450
17	PERIODICALS IN-COUNTY & PERIODICALS NON-PROFIT	439,019	442,767	452,507	456,457	469,968	474,096	\$ 0.1573
18	PERIODICALS IN-COUNTY & PERIODICALS CLASSROOM	90,864	91,770	96,511	97,473	95,432	96,398	\$ 0.1015
19	PERIODICALS IN-COUNTY & STANDARD (A) NON-PROFIT	1,207,422	1,225,202	1,408,327	1,430,321	1,402,009	1,423,804	\$ 0.1113
20	PERIODICALS IN-COUNTY & STANDARD (B) ZONE RATE	938,653	965,322	1,160,429	1,195,381	1,133,556	1,168,366	\$ 0.8946
21	PERIODICALS IN-COUNTY & STANDARD (B) BPM	471,316	485,263	575,650	583,026	560,801	577,652	\$ 0.3944
22	PERIODICALS REGULAR & PERIODICALS NON-PROFIT	2,111,872	2,137,993	2,401,494	2,432,308	2,370,156	2,400,570	\$ 0.2459
23	PERIODICALS REGULAR & PERIODICALS CLASSROOM	1,763,717	1,781,662	2,045,498	2,067,325	1,995,622	2,016,815	\$ 0.2629
24	PERIODICALS REGULAR & STANDARD (A) NON-PROFIT	2,880,275	2,919,832	3,357,314	3,405,976	3,302,199	3,349,838	\$ 0.1716
25	PERIODICALS REGULAR & STANDARD (B) ZONE RATE	2,611,506	2,662,695	3,109,416	3,173,900	3,033,746	3,097,120	\$ 0.3831
26	PERIODICALS REGULAR & STANDARD (B) BPM	2,144,169	2,178,374	2,524,638	2,566,905	2,460,791	2,501,973	\$ 0.3048
27	PERIODICALS NON-PROFIT & PERIODICALS CLASSROOM	376,137	378,635	384,565	387,182	402,605	405,387	\$ 0.1864
28	PERIODICALS NON-PROFIT & STANDARD (A) NON-PROFIT	1,492,695	1,512,798	1,696,381	1,720,447	1,709,182	1,733,484	\$ 0.1237
29	PERIODICALS NON-PROFIT & STANDARD (B) ZONE RATE	1,223,926	1,253,372	1,448,483	1,485,942	1,440,729	1,478,384	\$ 0.5793
30	PERIODICALS NON-PROFIT & STANDARD (B) BPM	756,589	772,616	863,704	883,202	867,774	887,173	\$ 0.3285
31	PERIODICALS CLASSROOM & STANDARD (A) NON-PROFIT	1,144,540	1,161,321	1,340,385	1,361,619	1,334,646	1,355,691	\$ 0.1134
32	PERIODICALS CLASSROOM & STANDARD (B) ZONE RATE	875,771	901,379	1,092,487	1,120,574	1,060,193	1,100,138	\$ 2.4236
33	PERIODICALS CLASSROOM & STANDARD (A) BPM	408,434	421,395	507,708	524,071	493,238	508,268	\$ 0.8299
34	STANDARD (A) NON-PROFIT & STANDARD (B) ZONE RATE	1,992,329	2,035,649	2,404,303	2,461,234	2,372,770	2,429,324	\$ 0.1962
35	STANDARD (A) NON-PROFIT & STANDARD (B) BPM	1,524,992	1,554,917	1,819,524	1,857,604	1,799,815	1,837,175	\$ 0.1469
36	STANDARD (B) ZONE RATE & STANDARD (B) BPM	1,256,223	1,301,938	1,571,626	1,630,834	1,531,363	1,589,731	\$ 1.6622

